

A N  
A C C O U N T

Of the LIFE AND WRITINGS of

T H E L A T E

ALEX<sup>R</sup>. MONRO Sen<sup>r</sup>. M.D. F.R.S.

D E L I V E R E D A S T H E

HARVEIAN ORATION at EDINBURGH,

For the Year 1780.

By ANDREW DUNCAN, M.D.

Member of the ROYAL SOCIETIES of MEDICINE of PARIS,  
COPENHAGEN, and EDINBURGH.

*Diligentia in omnibus rebus plurimum valet, hæc præcipue colenda est nobis, hæc semper adhibenda, quæ nihil est quod assequatur, qua una virtute reliquæ omnes virtutes continentur.——CICERO,*

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and C. DILLY, LONDON.

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T O

THE ROYAL COLLEGES

OF PHYSICIANS, AND OF SURGEONS, IN EDINBURGH,

THIS ELOGIUM

ON A LATE WORTHY MEMBER,

WHOSE EXAMPLE,

AS A TEACHER, A PRACTITIONER, AND A MAN,

WELL MERITS IMITATION,

IS RESPECTFULLY INSCRIBED,

B Y

Their most obedient Servant.

ANDREW DUNCAN

THE ROYAL COLLEGE

OF PHYSICIAN AND OF SURGEON IN AFRICA

THIS ELOCUTION

ON A LATE WORTHY MEMBER,

WHOSE EXAMPLE,

AS A TEACHER, A REFORMER, AND A MAN,

WILL BE THE MOTIVATION,

TO HIS SUCCESSFUL ILLUSTRATION,

THE ROYAL COLLEGE

ANDREW DUNCAN

## ADVERTISEMENT.

THE following pages were delivered as a public annual discourse, which was instituted some years ago, with a view of paying honour to the memory of the dead, and of encouraging the industry of the living. That the tribute of applause to departed merit, must operate with the human mind as a strong motive to virtuous exertion, may be asserted without danger of contradiction. When this account, therefore, of an illustrious character, is now published, after having been delivered to the audience for whom it was written, the author flatters himself, that the merit of the intention is the best apology he can offer for the imperfections of the work.

EDINBURGH, 17th April }  
1780. }



# ADVERTISEMENT

THE following pages were delivered  
as a public annual discourse, at the  
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dead, and of warning the living of the  
living. That the value of appeals  
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the work.

Printed by J. G. Smith  
1792

# HARVEIAN ORATION

AT EDINBURGH,

For the year 1780.

GENTLEMEN,

**A**N attempt to commemorate the meritorious conduct of those to whom posterity are deeply indebted, must ever afford pleasure to the virtuous mind. An endeavour to call forth the efforts of latent, or rising genius, must appear laudable to every one interested in the public good. To these valuable purposes, the birth-day of the illustrious HARVEY is, in this place, annually appropriated; and, if the abilities of the speaker were equal to the importance of the occasion, this meeting might be productive of considerable advantages to the healing art. If any name can excite just ideas of the utility of medical discoveries, or inspire  
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due veneration for the most valuable character, that of HARVEY must animate the efforts of every speaker, must awaken the attention of every hearer.

But to give a just delineation of singular merit, requires no inconsiderable share of those very abilities which are to be the subject of detail. I trust, however, that the benevolence of your dispositions, will compensate the deficiency of my endeavours; and I flatter myself, that what is now to be delivered, will be candidly received, at least as the best apology for what may have been expected.

These considerations will, I doubt not, secure to me an indulgent and attentive hearing, when I am now to present you with some account of the late Dr ALEXANDER MONRO, who may justly be considered as the father and founder of the Medical School at this place. If, while I endeavour to delineate his character, such an example shall be set before you, as may challenge your esteem, and excite your imitation, the tribute thus paid to the  
dead



dead may be beneficial to the living; and I flatter myself, that with many of this audience, an example worthy of imitation will have very great influence, although it be not enforced by that weight of argument and power of words, which are talents pertaining only to a few fortunate individuals.

DR MONRO was born at London, on the 19th September 1697. He was the son of Mr John Monro, then a surgeon in the British army. If a line of distinguished ancestry could add any thing to his merit, many names might be mentioned, both among \* his paternal and maternal progenitors, distinguished for true valour, strict honour, and steady patriotism; names on which the historians of their country have bestowed those encomiums, to which departed merit is intitled. But of his ancestors it is unnecessary to speak; for his reputation needs no addition, from

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\* He was descended, by his father, from the family of Monro of Milton; and, by his mother, from that of Forbes of Culloden.

circumstances in which he had no merit. If we trace him from the earliest periods at which he was capable of rational exertion, to the final termination of his labours, we shall find ample subject for eulogium, and conspicuous examples for imitation, without being interrupted by a single transaction over which it is necessary to cast a veil.

About the beginning of the present century, his father, retiring from the army, fixed his residence in Edinburgh; and was soon afterwards admitted a member of the college of surgeons in that city. Real knowledge, steady industry, and engaging manners, soon introduced him into extensive practice. But although he was much occupied in the discharge of professional engagements, the education of his son engrossed no small part of his attention; and it was an object from which he ever derived the greatest felicity. He saw, with a father's feeling, early marks of superior talents: He wished that these might be appropriated to the exercise  
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of the healing art : He regretted that Edinburgh then afforded but little opportunity for medical instruction: And he hoped, that the genius of his son, when ripened by years, and improved by culture, might be the happy means of supplying so great a defect. That genius, united with uncommon assiduity, facilitated his progress, in acquiring an early and accurate knowledge, in all those branches of literature, which could then be obtained from an Edinburgh education. As he was intended for the profession of medicine, it may naturally be supposed, that his information in the preliminary branches of that art was not inconsiderable, when he had, for his first teacher, an intelligent and affectionate parent. But at Edinburgh, other opportunities of improvement in medical science were then wanting. For, at that time, even the name of a medical school had not here an existence. There were indeed titular professors, but there were no teachers. The dissection of a human body

was shewn only occasionally, and in a superficial manner, as an additional disgrace to the punishment of the most atrocious crimes. It was not therefore in this city, that the intelligent practitioner, or accomplished teacher, could then be formed. An education elsewhere was necessary to satisfy the wishes of a young man ambitious to excel, and to promote the views of a fond father, who had projected the future fame of a son, whose opening genius was already the object of his admiration.

An extensive course of education at London, at Paris, and at Leyden, was judiciously planned, and effectually carried into execution. During his residence at those places, no circumstance more strongly marked Dr MONRO's character, than the unwearied assiduity with which he cultivated every opportunity for improvement which they afforded. He became the attentive pupil of the most eminent teachers of those days. And among others whose public lectures he attended, we may mention



tion the names of Cheselden, Hawkſby, Chomel, Bouquet, Thibaut, and the illuſtrious Boerhaave. From theſe preceptors, he could not fail of acquiring much uſeful knowledge. But it was not from public teachers alone that he derived inſtruction. Fired with the ambition of excelling in the profeſſion he had choſen, wherever he went, he neglected no opportunity for obtaining real knowledge. This was the object of his purſuit, and he fought it wherever it was to be found.

But if he derived much from the erudition of others, his progreſs was no leſs forwarded by his own reflections. To all that could be obtained from the lectures of eminent teachers, or from the converſation of men of learning and experience, he ſuperadded the fruits of his own induſtry improved by the remarks of thoſe who were the companions of his ſtudies. An eſſay on the bones in general, delivered in a ſociety of his fellow-ſtudents at London, was the ground-work of a future publication on that ſubject, which  
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will do him immortal honour. Several elegant anatomical preparations which he made at London, were presented by his father to the colleges of physicians and of surgeons at Edinburgh, and gained him very great credit as an anatomist. Mr Drummond, who had then the title of professor of anatomy, was so much pleased with those marks of the progress which he had made, that he formed the resolution of relinquishing a nominal dignity, and delivering it into the hands of one by whom it would be converted into an useful profession.

Neither, however, a natural predilection for anatomy, nor the assurances which he had received of being furnished with an opportunity of teaching it on his return to Edinburgh, led him to neglect other branches of medicine. His numerous manuscripts from the lectures of many different teachers are still preserved; and they demonstrate his extensive labours, his unwearied industry. But from the prospect which he had of soon filling an anatomical chair, it may naturally be supposed,



supposed, that this fundamental branch of medical science was never postponed to any other. While, therefore, he exerted much industry to become an able physician, he strained every nerve to render himself an accomplished anatomist.

Thus qualified for the duties of a practitioner, and for the office of a teacher, he returned to Edinburgh. There he remained not long inactive. Within the space of a few months after his arrival, in the year 1720, he began the first regular course of anatomical and chirurgical lectures and demonstrations which was ever delivered in that city. From his abilities and zeal, success could hardly fail to attend his labours. The satisfaction given to his audience did not disappoint the expectations of those who held him in the highest esteem; and while his accuracy as an anatomist and ingenuity as a physiologist were equally conspicuous, he neglected no opportunity of pointing out useful applications to the practice of physic and of surgery.

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But it could not be expected that an anatomical and chirurgical course alone, however valuable, or that a single professor, however great his abilities, would be sufficient to raise the fame of a medical school, which had to combat many rival seminaries of deserved eminence. It became, therefore, a matter of the utmost consequence to obtain such associates as could second and support his labours. His father, whose zeal for the accomplishment of his favourite object, the introduction of regular medical education at Edinburgh, had increased in proportion to the probability of success, prevailed on Dr Alston, then king's botanist for Scotland, to begin a course of lectures on the materia medica. Still, however, the want of lectures on other branches was an essential defect. The endeavours, therefore, of the young professor were strenuously exerted for exciting in others the same enthusiasm with which he was himself animated. These endeavours were soon crowned with success; and he obtained



ed associates in every respect correspondent to his wishes. In a short time, he had for his colleagues, Rutherford, Sinclair, Plummer, and Innes, names which will be long and deservedly conspicuous in the annals of medicine. Aided by these fellow-teachers, and their immediate successors, he continued his labours with indefatigable industry, for near the space of fifty years. During all that period, he had the satisfaction of observing the increasing fame of a seminary of medical education, which owed its existence in a great measure to himself; and, before the termination of his labours, to find it equalled by few other medical schools, and inferior to none in Europe. Thus the man who had given a beginning to medical education at this place, saw it acquire in reality, as high a degree of reputation as he could ever conceive in imagination.

But to the applause which resulted from his success, he superadded the merit of teaching with singular liberality of sentiment. Of this disposition, his conduct

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to the ingenious Dr Martin exhibited a striking example. When Dr Martin, justly celebrated both as a philosopher and physician, began to read medical lectures at Edinburgh, men of narrower minds viewed him in the light of a rival to the College. But Dr MONRO thought, and he thought with justice, that the fame of the school of medicine at Edinburgh, would be increased in proportion to the number of able teachers, whether their lessons were delivered within or without the precincts of the university; and he rejoiced that another opportunity was there afforded, to the students of that science, for acquiring useful knowledge. Upon the death of Dr Martin, he lamented the untimely fate of a rising genius: He celebrated the praises of departed worth: And he superintended the publication of his posthumous works, that the anatomical part of his labours might descend to posterity, with every advantage to his fame: A conduct worthy of a man; an example deserving the imitation of rival teachers, to latest ages.

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It has been often and justly regretted, that the prejudices of the vulgar have rendered private dissection at Edinburgh, if not impossible, at least to a high degree hazardous. Had Dr MONRO lived in a more enlightened age, from his conduct in other respects, there can be no room to doubt, that he would have employed every effort to afford to the anatomical student at Edinburgh all those opportunities of improvement which he can enjoy either at London or Paris. But those desirable objects, from the genius of the period and of the people, still remain to be accomplished. If, however, the time shall ever arrive, when the present insuperable barrier of vulgar prejudice shall be removed, every one, who is duly interested in the public good, will assist in forwarding this improvement: But the ardent zeal and extensive views of another MONRO will be necessary for its complete accomplishment.

To consider Dr MONRO as a mere anatomical demonstrator, however eminent, however meritorious his conduct in

that capacity, would be to take a very confined view of what he was, and of what he did. While he shewed uncommon anxiety in giving instruction to his pupils, he was no less assiduous in adding to his own knowledge, and improving every branch of the medical art. He was fully sensible of the many advantages, which the students of medicine, which the country at large, and which mankind in general, would derive from the establishment of an hospital at Edinburgh. To afford immediate and salutary aid, to those at once oppressed with poverty and disease; to teach the healing art by experiment and example; to furnish useful lessons, not merely to students, but to those engaged in practice; and to improve the art itself; were the invaluable objects, reasonably to be expected from such an institution. For the speedy accomplishment, therefore, of such a purpose, he left no measure untried, no nerve unstrained. In this, indeed, he laboured not alone; nor had he to combat difficulties arising from  
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fordid or self-interested opposition. Even the most avaritious citizens, where fortune had placed them in affluent circumstances, grudged not to aid the undertaking, from the fullest conviction that it was calculated for the public good: And men whom heaven had blessed with extensive views and feeling hearts, seemed to vie with each other, in promoting so useful an establishment.

While all ranks were thus zealously interested in the erection of an hospital, the name of another individual must be mentioned on the present occasion. No one could be animated with more liberal principles, no one could exert more incessant endeavours for the establishment of the Royal Infirmary, than the late **GEORGE DRUMMOND**, Esq; who had often held the rank of chief magistrate of the city of Edinburgh, with no less credit to himself, than advantage to the public. His station, as well as his abilities, justly entitled him to take the lead in this matter among his fellow-citizens.

citizens. And in designing, superintending, and executing every part of the work, he found in Dr MONRO a faithful and assiduous colleague. By the unanimous voice of the first contributors, these two were alone nominated the building-committee; and ere long they had the satisfaction of beholding a large, commodious, and elegant hospital, completely furnished. To their mutual labours, therefore, mankind are indebted, for all the advantages resulting from the Royal Infirmary of Edinburgh.

Dr MONRO foresaw that this hospital would be useful for many purposes: But he had particularly in view the advantages which might be derived from it as a field for medical education; and in rendering it subservient to this end, he took an active part, to the latest period of his life. Even after he was exhausted by years and by exertion, and had entirely relinquished to his son the duties of the anatomical class, he yet continued with unwearied industry his prelections



lections in the Infirmary. There I had myself the happiness of being a pupil who profited by the judicious conduct of his practice, who was improved by the wisdom and acuteness of his remarks. I have indeed to regret, that I attended only the last course of lectures in which he had ever a share, and at a time when he was subjected to a disease which proved at length fatal. Still, however, from what I saw, and from what I heard, I can venture to assert, that it is hardly possible to conceive a physician more attentive to practice, a preceptor more anxious to communicate instruction. His humanity in the former of these characters, led him to bestow the most anxious care on his patients while they were alive; and his zeal in the latter, induced him to make them the subject of useful lessons when they happened to die.

In the different stations of physician, of lecturer, and of manager, in the hospital, he took every measure for inquiring into the causes of disease by dissection. He

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personally attended the opening of every body: and he not only dictated to the students, an accurate report of the dissection; but, with nice discrimination, contrasted the diseased and sound state of every organ. Thus, in his own person, he afforded to the students a conspicuous example of the advantages of early anatomical pursuits, as the happiest foundation for a medical superstructure. His being at once engaged in two departments, the Anatomical Theatre and Clinical Chair, furnished him with opportunities for experiment both on the dead and living body, and placed him in the most favourable situation for the improvement of medicine; and from these opportunities he derived every possible advantage which they could afford.

The same temper of mind which led Dr MONRO to be an active teacher, and by which he was instrumental in the establishment of the infirmary, distinguished him in every other situation in life. Besides extensive practice in the line of his pro-



profession, to enumerate all the important transactions in which he was uniformly engaged, would require a tedious detail. He was not only a member of many learned Societies, and a manager of many public charities; but, with the strictest punctuality, he at the same time performed every part of his duty in \* several other engagements, both of a civil and political nature: And, though very few have ever been at once employed in so many different occupations, no one could be more assiduous in his endeavours to promote every measure which tended to public utility.

But his character was not more conspicuous in public, than it was amiable in private life. He was equally distinguished for filial piety, conjugal fidelity, and parental affection. When his father was no longer able for the fatigues of business, he purchased for his use a delightful

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\* He was a Director of the Bank of Scotland, a Justice of the Peace, and a Commissioner of High-roads.

ful country-seat. There, the aged parent enjoyed the happiness of every comfort, which the affection, the reverence, or the merit of a son could afford; and there he ended his days in calm retirement. Soon after Dr MONRO began to teach anatomy, he married Isabella, the daughter of Sir Donald Macdonald, a baronet of Scotland. With her, till his death, he lived in uninterrupted domestic harmony. Eight children were born of this marriage. Of these, four died young; † four are still alive. But of the living it is not here our business to speak. Suffice it to say, that, before the death of Dr MONRO, they were all placed in reputable and honourable stations. Their own public declarations bear testimony, that they stood indebted to him for all the favours which can be received from the most sincere friend, the most attentive preceptor, and the best of fathers.

† His surviving children are, John Monroe, Esq; Advocate; Dr Donald Monroe, Physician in London; Dr Alexander Monroe, Physician in Edinburgh; and Mrs Philip, wife of James Philip, Esq; Judge Admiral for Scotland.

fathers. Thus there cannot be a doubt, that the obligations which he owed to his parents, were amply repaid to his children.

After a life spent in the most active industry, he became afflicted with a tedious and dangerous disease. But he bore the most exquisite pain with the resolution of a man, with the resignation of a Christian. At length, after having been subjected to it for many months, he died on the 10th of July 1767, in the 70th year of his age.

To give a full account of his numerous discoveries and improvements in medicine and in medical philosophy, would require a very long detail. It is enough to say, that his fame among his cotemporaries was established on the most unequivocal foundation; and that the writings which he has bequeathed to the public will transmit his merit to posterity, long after the efforts of other pens, which have combined in celebrating his praises, are buried in oblivion.



In every Society at Edinburgh, for the improvement of arts, or of letters, he was justly considered as one of its brightest ornaments. He was a member of the Colleges of Surgeons and Physicians; of the Medical Society, which then subsisted; of the Philosophical Society; of the Select Society for questions in morality and politics; and of the Society for promoting arts, sciences, and manufactures in Scotland. In all these he uniformly supported the character of an able associate, and in all of them his zeal was not inferior to his abilities. While he was esteemed and respected at home, he was revered and honoured abroad. The Societies at London and at Paris, established and patronized by royal authority, considered it as an honour to have his name enrolled among the catalogue of their members.

What his cotemporaries knew from his conversation, posterity may learn from his writings. His Treatise on the Anatomy of the Bones was written for the use of students;

dents; but it is capable also of affording instruction even to the oldest and most experienced practitioner. At once it displays extensive reading, accurate observation, and judicious reflection. In treating of this fundamental branch of all anatomical knowledge, besides a minute description of the parts copied from nature, and a candid account of the sentiments of others, the work every-where abounds with new and important observations, immediately applicable to practice. The reception which it has met with from the public, has been proportioned to its merit. It has been translated into many different languages. It has passed through numerous editions. It has been re-printed in foreign countries in the most superb manner, and adorned with as elegant and masterly engravings as are to be found in any anatomical work.

His Description of the Lacteal Sac and Thoracic Duct, contains the most accurate account of that important part of the body which has yet been published; and  
his



his Anatomy of the Nerves will transmit to posterity an excellent example of accurate dissection, faithful description, and ingenious reasoning.

But, however great his merit in these publications, he is intitled to still higher applause for another and a more extensive work, although it bears his name only in a secondary way. To him chiefly we are indebted for the six volumes of Medical Effays and Observations, published by a Society in Edinburgh. On this work, after the character which has been given of it by the most able judges, it is unnecessary for me to pronounce any encomium. It is enough to say, that the illustrious Haller represents it as a book which ought to be in the possession of every medical practitioner. In every volume, several of the most useful and ingenious papers are the productions of Dr MONRO. But besides this, although in the first volume he had the aid of some other gentlemen, to whom he officiated as secretary, yet they soon became remiss in  
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their attendance ; their meetings in a short time were entirely discontinued ; and, although the title was not changed, yet the secretary was the sole collector and publisher of the work. To him we are therefore in a great measure indebted for those numerous and important discoveries with which this publication has enriched every department of medical knowledge.

In the two first volumes of the *Physical and Literary Essays*, published by the *Philosophical Society of Edinburgh*, in which he had the rank of one of the presidents, we find several papers written by him, which are not the least ornaments of that valuable collection. His *Account of the success of Inoculation in Scotland* may be considered as his last publication. It demonstrates his extensive correspondence, and indefatigable industry ; and it has had very great influence in recommending to the attention of every practitioner, and of every parent, a salutary practice,

practice, which has been the means of preserving the lives of thousands.

Besides these, he was also the author of several other elegant and masterly productions, which were never published. Upon his appointment to the professorship of anatomy, he delivered an oration *De utilitate anatomes*. Some years after, he delivered a second, *De cuticula*. Upon the death of that truly great man Mr M'Laurin, professor of mathematics, a fellow-teacher, with whom he had always lived in the strictest ties of intimate friendship from the day on which they were together received professors of the university, he pronounced an elogium on the memory of that eminent mathematician; in which he delineated, to a numerous audience, the just character of the friend whom he loved, the philosopher whom he admired.

After having given this account of the life and writings of Dr MONRO, it may be expected that we should thence endeavour to exhibit a short view of his character.

ter. But to sum up his qualifications in a few words would be impossible. He studied medicine, with a zeal and industry, seldom paralleled, perhaps never exceeded. He taught it with an enthusiasm, and liberality of sentiment, proportioned to the importance of the art. And he neglected no opportunity of encouraging genius, of promoting and forwarding the efforts of industry.

If in the line of an anatomical teacher Dr MONRO left much to be done, yet he accomplished more than in the life of any one man could have been reasonably expected. If as a son, a father, a husband, and a friend, he displayed in private and domestic life a character which challenged admiration; so in the various stations of a student, a teacher, and a practitioner in medicine, he exhibited a bright pattern for imitation.

After his example, long may every student at this place, with industrious attention, seize every opportunity of acquiring useful knowledge: Long may  
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every one, who takes upon himself the office of a teacher, with a zeal proportioned to the importance of the task, direct all his views to the communication of that instruction which will be of most avail in the removal of disease: Long may every one, engaged in the practice of the profession, with a spirit of real benevolence, anxiously endeavour to render the fruits of his experience subservient, not merely to his own improvement, but to the instruction of others, and to the advancement of the healing art. While these circumstances are properly and happily united; while genius and industry are excited, cherished, and supported, by such a protector, and such a patron, as the illustrious MONRO; the fame of that school of medicine which he established at Edinburgh, will be transmitted to latest posterity with undiminished reputation.

# A D D R E S S

T O T H E

STUDENTS OF MEDICINE,

By DR CHARLES WEBSTER,

On delivering the HARVEIAN PRIZE for 1780, to  
Dr ARTHUR BROUGHTON of Bristol.

GENTLEMEN,

**T**HE object of this annual meeting is not only to commemorate the illustrious dead, but to confer the rewards of genius on the living. Establishments thus friendly to emulation almost universally prevail. They have given birth to some of the most brilliant discoveries; the first names in philosophy and the arts have honoured them by their competition; and from them the happiest effects

have redounded to every department of science.

Of the utility of the present institution, another proof is now added to those formerly given by a STEVENS and a DARWIN. The prize for the question announced last year, is adjudged to a gentleman already distinguished in the line of experiment. In his review of former tests between Mucous and Purulent Expectoration, he has discovered fallacies hitherto undetected, and pointed out a criterion which appears to be equally simple and just.

In the present Essay, he has given a clear and concise detail of every thing relating to the Coagulable Lymph of the Blood, and a demonstration of the increase of that substance in inflammatory disease. He has likewise formed some probable conjectures of the cause of this increase, and drawn several inferences useful in the practice of physic.

It is, therefore, with much satisfaction I now deliver to him this Medal, with the Works of the illustrious HARVEY; and



I sincerely wish, that future competitors may do equal honour to the institution.

The subject of the Blood does not appear to be yet exhausted. Controversies respecting its parts still subsist. It is a fluid of such importance in the animal œconomy, that every remaining doubt concerning it must be matter of regret.

The inquiry, therefore, of this year, is into the Nature and Ingredients of the SERUM. The saline matter which this contains, is still the subject of dispute. Whether its viscid part be coagulable lymph dissolved in the serosity, requires demonstration; and the existence of mucus in it, does not seem to be ascertained. Closely connected with this investigation, is the theory of Purulence. The experiments of Pringle and Gaber have of late been much controverted: so that, in every view, the field for inquiry is considerable; and will, I hope, fully repay the labour bestowed.

No arguments, surely, are necessary at this day to recommend experimental pursuit.

fruit. No one is now ignorant, that it is the only road to genuine science; and that nothing is intitled to the denomination of philosophy, which rests not on this foundation. Had it not been that taste for experiment so happily introduced by the immortal BACON, and since so successfully cultivated, we might have still been dragging the car of Aristotle, still toiling in the trammels of the schools.

Though even random experiment may have sometimes struck out truths of moment, yet a fund of knowledge, and a collected attention, are certainly the surest guides, not only to bare discovery, but to principles of extensive application. The leaves of trees had been falling unheeded from the beginning of the world: it was the attentive eye and comprehensive mind of NEWTON alone that could seize this common appearance, and from it explain the constitution of the universe.

Indeed the very habit of experiment tends to awaken and improve those faculties of the mind, on which success most  
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generally depends. It begets attention, rivets knowledge, and expands the powers of comprehension.

Allow me then, Gentlemen, to recommend such pursuits to your zealous regard. They are peculiarly adapted to that quickness of perception, which those of your years so commonly enjoy. Once begun, they will recommend themselves to your own feelings. By no other method can you more effectually serve the interests of humanity and your profession; by none so assuredly hope for the reputation of a HARVEY or a MONRO.



